

ABSTRACT OF THE DISCLOSURE

A method and apparatus for early fault detection in a centrifugal pump equipped with a balancing device, where the balancing device has an axial gap and optionally at least one radial gap through which a balancing flow is conducted, and with a spring element which acts on the balancing device to hold open the axial gap. Reliable information regarding impending faults is obtained while largely using existing elements by measuring the deformation of the spring element (10, 14) during operation of the centrifugal pump (24), and starting from the pump characteristics of the centrifugal pump (24) and the spring constant of the spring element (10, 14), drawing a conclusion regarding the instantaneous operating state of the centrifugal pump based on the measured deformation.